

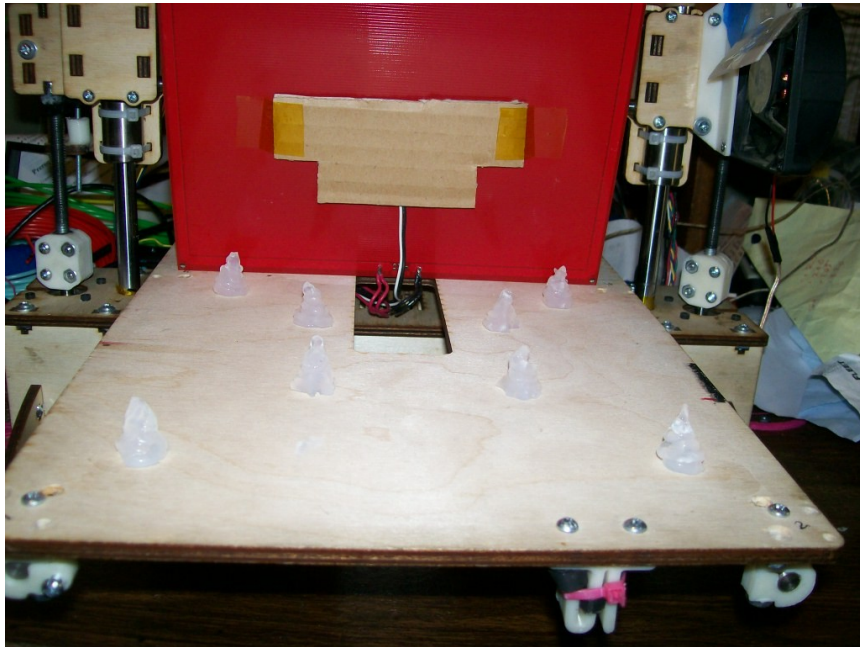
Getting your Heated bed level on your Printrbot can be hard to do. I am going to show you what I think is the easiest and most accurate way of doing it. At least it works great for me. I have a Printrbot Plus and I am assuming it will work on the other models also. One of the first things I did when I got my Bot was to purchase a piece of 9x9 Double Strength window glass from a local glass shop and some Kapton tape (Polyimide Tape) from Protoparadigm. (<http://www.protoparadigm.com/products/polyimide-tape/>) I actually got 3 pieces of glass so if I did need to replace one I could do it quickly. I purchased the 130mm wide tape. Looking back on it I probably should have bought the 220mm wide so I could put it on in one swipe. You will also need some 100% Silicone Sealant.

Step 1:



Tape a piece of aluminum foil to a table or something. It seems to be easier to remove the Silicone from the foil better than any other material. Squeeze out the silicone into a cone shape. Start out at the base around 1/2". Come to a point at about 3/8" to 1/2" high depending on how far off the wood your heated bed will be. I made 8 pieces plus a few more just in case. It will take about 24-48 hours for it to cure. You can mist it with water to make it cure a little faster. Alternately you could use some light springs with a 1/2 to 3/4 " diameter if you can find them. Once the silicone is cured you can trim them with a scissors or Exacto knife if you need to.

Step 2:



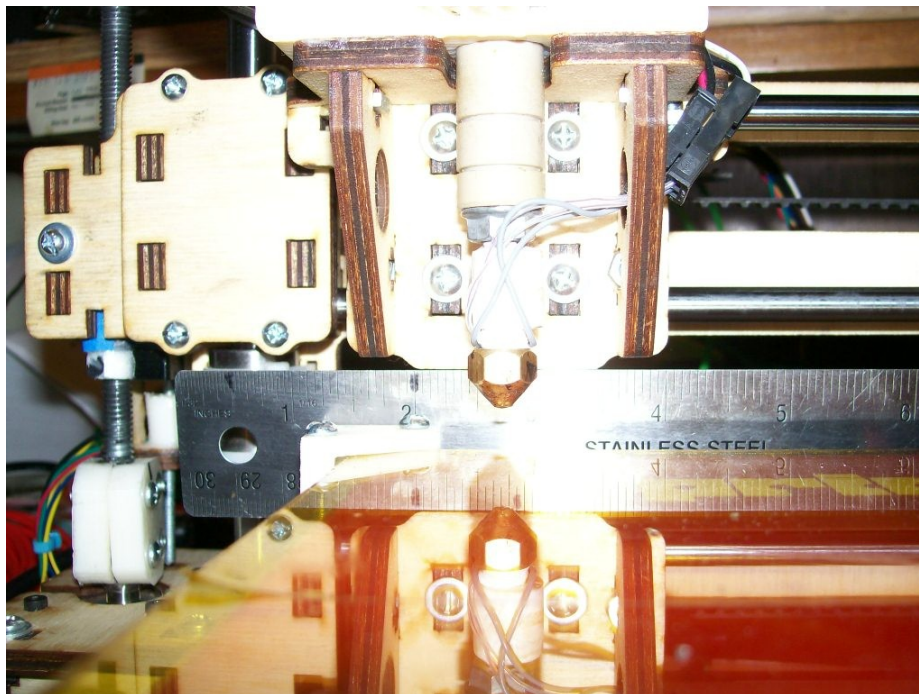
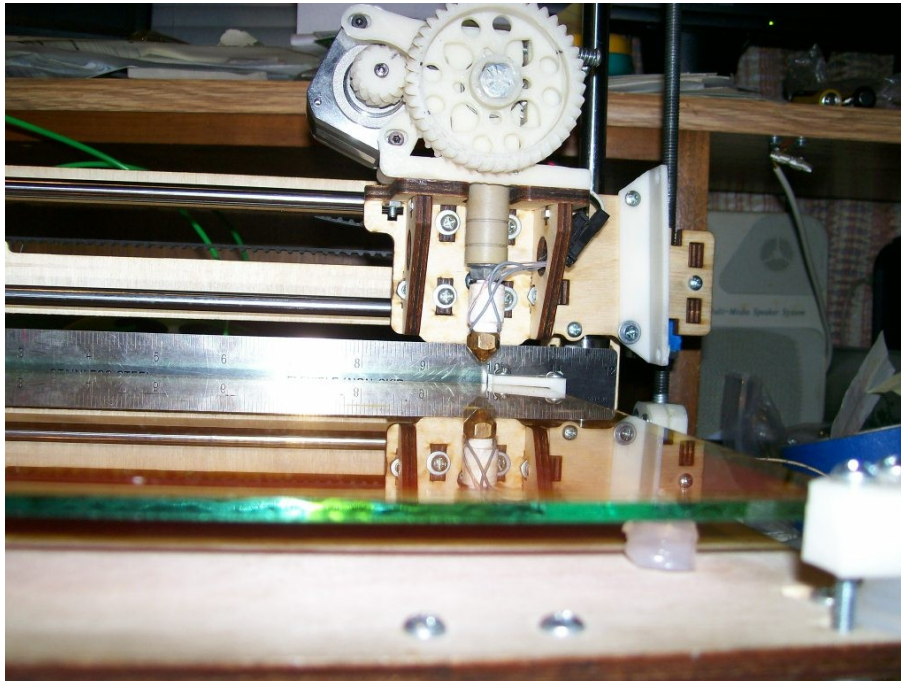
Place 4 pieces towards the outer corners and 4 a couple inches off the center.

Step 3:



Attach your heated bed, glass with Kapton tape and the glass clips. I used the 4 extra pieces of Silicone under the corners of the glass clips to help them pivot for adjustments.

Step 4:
Leveling the bed.



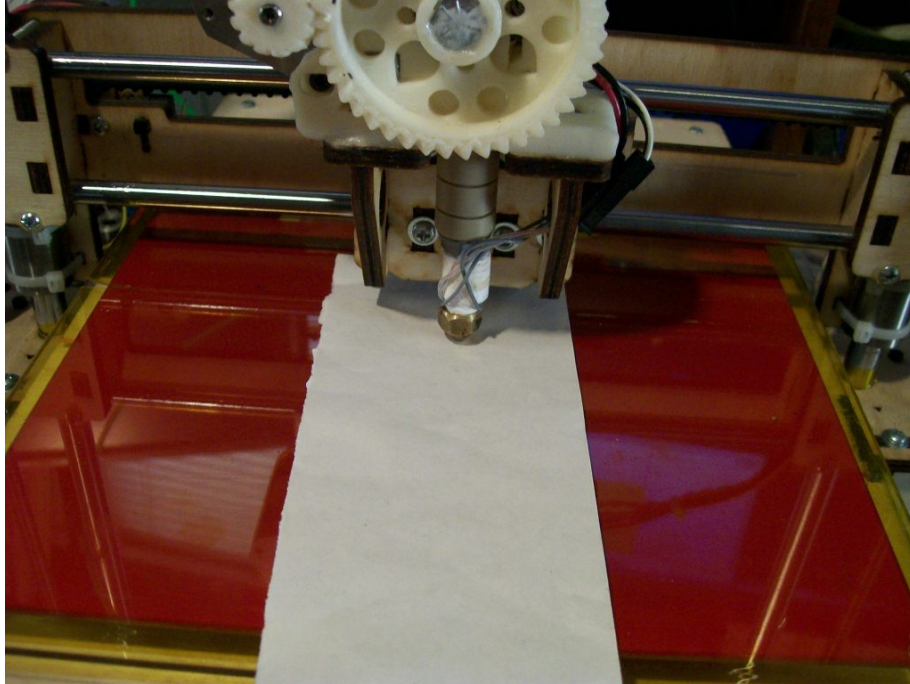
Eyeball your glass to make sure it's pretty level. Place a ruler or a straight edge of some kind on the wood bed, and using Pronterface, lower your hotend carriage until they almost touch. Do this on the far right or left side. Turn that Z-coupler until they just touch. Move the carriage to the other side and do the same thing. You may need to do this a few times in order to get them both even. Your carriage

is now level with your wood bed.

Step 5:

Leveling your glass.

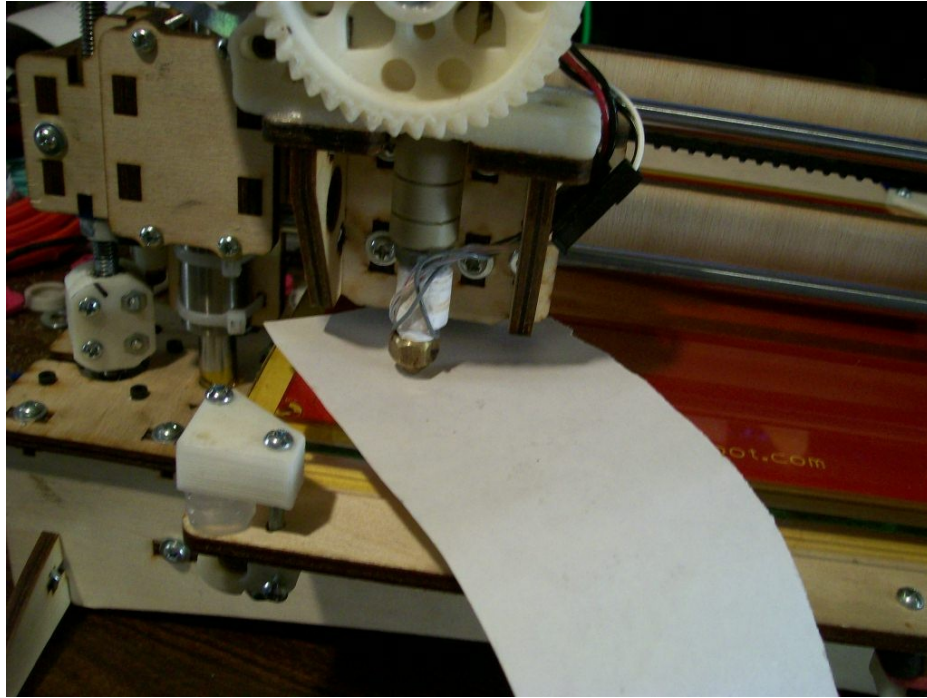
Note: For these next few steps make sure you lift your nozzle up just a touch before you move it very far to another part of the glass so you don't dig the nozzle into the glass..



Note: Do the first part of this step now and also the first time your extruder and heated bed are up to temperature. When things are heated up they will expand some. You shouldn't need to do this adjustment very often in the future unless you change glass or something else.

Home your X and Y axis using Pronterface. Move the extruder into the middle of the bed. Lower the nozzle down to the heated bed. As you get closer use smaller increments. Put a piece of regular paper on the bed under the nozzle. It's about .004" thick. When the nozzle just touches the paper adjust the Z-stop screw so when you hit the home button the nozzle just touches and when you pull on the paper there is very little resistance. Do this a few times and make any necessary adjustments to the screw.

Step 6:
Leveling the glass...corners



Now move your nozzle to the front left corner, about 1 ½ - 2” from the edges. Use the same procedure as in Step 5 to do this except now adjust the glass clips up or down to get them zeroed in. Do not adjust the Z-stop screw for these steps. Once you have this side dialed in, move to the right side and do the same. Your front side should be real close. Next use the same procedure on the back of the glass....left and right.

Almost there.

Right now you are very close. Using the same procedure, do the same for the four corners 1 or 2 more times until your not making any more adjustments to the glass clips. Your glass should be level with your nozzle now.

Go back to Step 5 and redo that. You shouldn't have to do much adjustment of the Z-stop screw at this point.

Your bed is level at this point. Raise your nozzle up an inch or so. Get your extruder and heated bed up to temperature. Wipe off any filament that oozes from the extruder when it gets up to temperature. Turn the Z-stop adjusting screw clockwise about ½ turn because things have expanded slightly from the heat. Repeat step 5 one last time. This time you don't need to raise the nozzle when you move around.

Your heated bed should now be completely level with your nozzle. Using this procedure you should be within a couple thousandths of an inch over the entire surface of the bed.